

REMARKS

This responds to the Office Action mailed on January 8, 2009. Reconsideration is respectfully requested.

Claims 1 and 9 are amended, claims 4, 12 – 19, 21, 22, 24, 25, 27 and 31 – 33 are canceled, no claims are added, and claims 2, 20, 23, 26 and 29 were previously cancelled; as a result, claims 1, 3, 5 – 11, 28 and 30 are now pending in this application.

Request for Form-892

Applicants respectfully request that the Examiner prepare a Form-892, listing two of the documents used in rejections of the claims, Kuroda et al. (U.S. 6,603,961) and Liang (U.S. 2003/0165131 A1), with the next communication in connection with this application.

Allowable Subject Matter

Claims 7, 8, 28 and 30 were allowed.

§ 103 Rejection of the Claims

Claims 1, 3, 5, 22 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford (U.S. 2002/0160737 A1) in view of Hilborn (U.S. 7,065,171).

Applicant's claim 1 has been amended to clarify the differences between a wideband channel, the subchannels and the OFDM subcarriers. As recited in claim 1, a wideband channel comprises a plurality of subchannels. Furthermore, each subchannel comprises a separate set of OFDM subcarriers. In other words, the subchannels are separated in frequency and do not overlap. The wideband channel is defined as having a plurality of the subchannels. For example, if the bandwidth each subchannel is 20 MHz, a wideband channel that includes four subchannels would have a bandwidth of 80 MHz. In accordance with claim 1, an OFDM symbol is received over one or more of the subchannels of the wideband channel.

Applicant's claim 1 has also been amended to clarify that the receiver includes a plurality of FFT circuitries. Each FFT is configured to generate frequency domain symbol-modulated subcarriers for a set of subcarriers. As further recited in claim 1, when data is to be received on a

single subchannel in an increased-range mode, each of the FFT circuitries is configured to generate frequency domain symbol-modulated subcarriers for the set of OFDM subcarriers of the single subchannel. When data is to be received on the plurality of subchannels in a high-throughput mode, each of the FFT circuitries is configured to generate frequency domain symbol-modulated subcarriers for one of the subchannels. This flexibility allows the receiver of claim 1 to operate in a higher-throughput mode that uses more subchannels or an increased range mode that uses fewer subchannels.

Crawford does not teach, suggest or motivate the ability to selectively receive different subchannels and use a plurality of FFT circuitries in the manner recited in Applicant's claim 1. Although Crawford selects antennas (paragraph [0040]), Crawford is concerned with subcarrier selection in diversity module 108 (see Crawford paragraphs [0036] – [0040]) and combining corresponding subcarriers in accordance with MRC. Applicant's claim 1 however provides for high throughput or increased range operations through the selective use of one or more *separate subchannels* and the selection of antennas.

Applicant notes that Crawford is directed to *diversity* antenna selection. The purpose of Crawford's diversity receiver is to receive *the same channel* through more than one antenna and combine the contributions together for improved BER (see Crawford paragraph [0036]). Applicant's receiver recited in claim 1, however, is configurable not only to allow data to be received over the same subchannel through more than one antenna, but to allow data to be received over *more than one subchannel of a wideband channel*. This is not the case in Crawford.

Accordingly, the rejection of claim 1 under 35 U.S.C. § 103(a) is believed to be overcome. Claims 3, 5, 6 and 9 – 11 are believed to be allowable at least because of their dependency on claim 1. Claims 22 and 25 have been cancelled.

Since claim 1 has been amended to include recitations from previously and currently pending dependent claims, no new issues are raised by this amendment as they have already been considered by the Examiner. Accordingly, Applicant believes that this amendment should *not* result in the issuance of a Final Office Action.

Claim 24 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford in view of Hilborn and further in view of Walton (U.S. 2003/0043732 A1). Claim 24 has been cancelled.

Claims 6 and 27 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford in view of Hilborn and further in view of Kuroda (U.S. 6,603,961). Claim 6 is believed to be allowable at least because of its dependency on claim 1. Claim 27 has been cancelled.

Claim 4 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford in view of Hilborn and further in view of Polley (U.S. 2005/0113041 A1). Claim 4 has been cancelled.

Claim 9 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford in view of Hilborn and further in view of Liang (U.S. 2003/0165131 A1). Claim 9 is believed to be allowable at least because of its dependency on claim 1.

Claims 10 and 11 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford in view of Hilborn and Liang and further in view of Walton. Claims 10 and 11 are believed to be allowable at least because of their dependency on claim 1.

Claims 12-14 and 19 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford in view of Walton and further in view of Hilborn. Claims 12-14 and 19 have been cancelled.

Claims 15 and 21 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford in view of Walton and Hilborn and further in view of Kuroda. Claims 15 and 21 have been cancelled.

Claims 16-18 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford in view of Walton and Hilborn and further in view of Liang. Claims 16 and 18 have been cancelled.

Claims 31-33 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Crawford in view of Hilborn and further in view of Shao (U.S. 2004/0258174 A1). Claims 31 - 33 have been cancelled.

AMENDMENT AND RESPONSE UNDER 37 C.F.R. § 1.111

Serial Number: 10/749,903

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Title: MULTICHANNEL ORTHOGONAL FREQUENCY DIVISION MULTIPLEXED RECEIVERS WITH ANTENNA SELECTION AND MAXIMUM-RATIO COMBINING AND ASSOCIATED METHODS

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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (480) 659-3314 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(480) 659-3314

By Gregory J. Gorrie
Gregory J. Gorrie
Reg. No. 36,530